NAVY CIVIL ENGINEER
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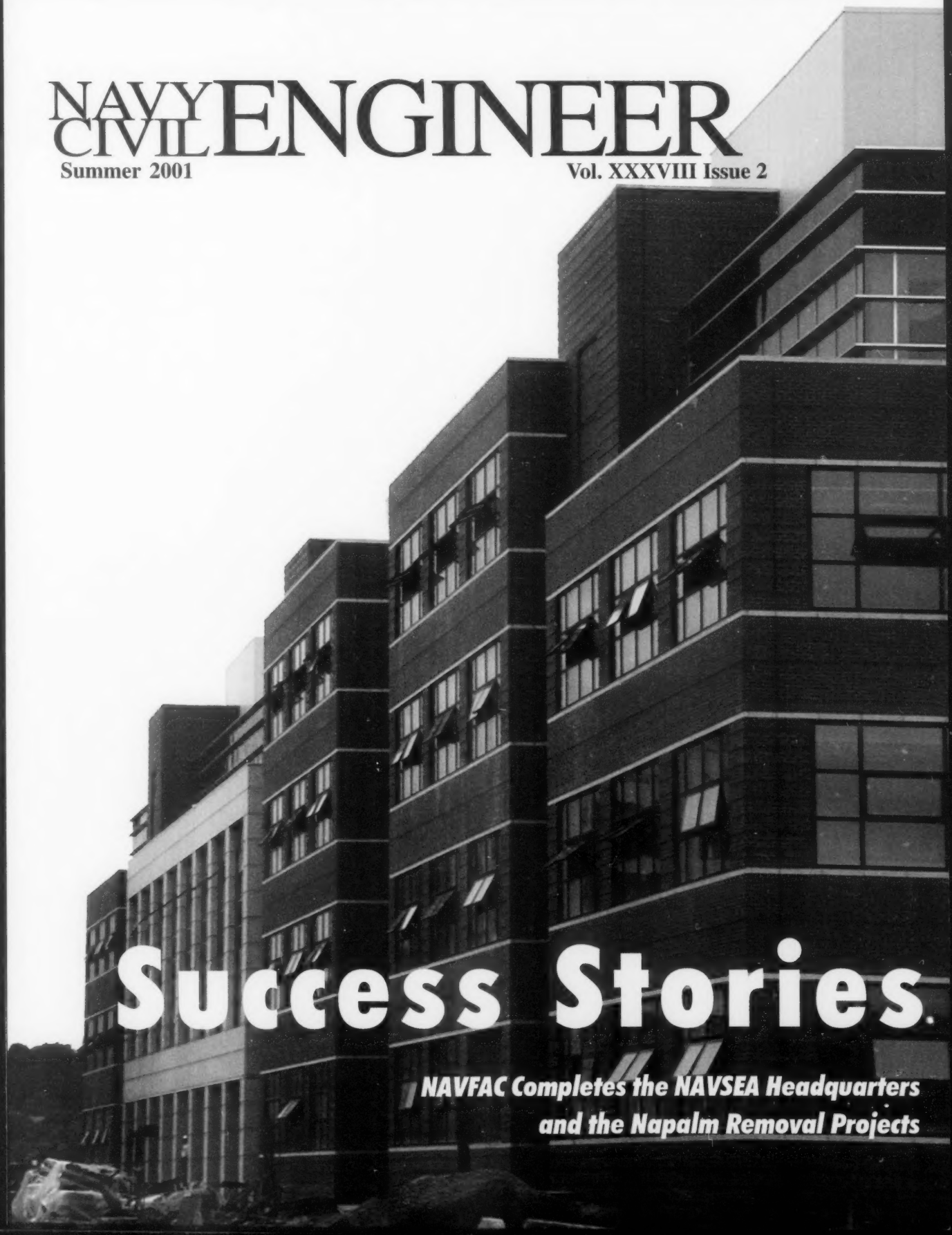
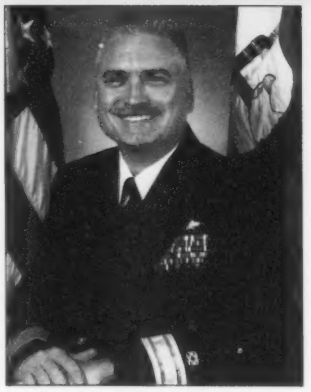


Success Stories.

NAVFAC Completes the NAVSEA Headquarters and the Napalm Removal Projects

Speaking from Topside



This issue of the *Navy Civil Engineer* features several Naval Facilities Engineering Command (NAVFAC) success stories. What I'd like to do is step back for a moment and examine some of the key elements of a successful project from a macro perspective – **people** and **process.**

First and foremost, it takes **people**…the right people. We need to assemble a project team whose members realize the value of and are committed to cultivating their relationships and communicating effectively and often. In this age of matrix organizations, effective communication and the development of trust among team members and confidence in each other are especially important. I would bet that our most successful projects had teams comprised of stakeholders that excelled at these attributes throughout the life of the project – from inception to completion.Conversely, our "less well done" projects most likely lacked these important ingredients.

The team is not comprised of just NAVFAC associates, our designers and contractors. A vital member of the project team is the client. The client's input and involvement are needed on all phases of the project – from concept development, through planning and design, to construction and commissioning. We simply can't tackle a project and tell the client "we'll call you when it's finished."

The Charette Health Care Center opened at Naval Medical Center Portsmouth, Va., in April 1999. Early in this 10-year effort, during the design of exam rooms, offices, patient rooms and clinic facilities, the Officer in Charge of Construction sought the input of doctors, nurses and corpsmen who would be working in the new hospital. During construction, 11 delivery rooms, operating rooms, exam rooms, patient rooms, offices, and nurses stations were constructed and outfitted so the staff could get a feel for them before the rest were built. Dozens of good ideas were incorporated at this early stage, eliminating costly, repetitious changes later. We have also built mock houses and rooms for family and bachelor quarters projects so that our ultimate client – our service members and their families – could give us feedback before proceeding with construction. These are excellent examples of client involvement to ensure we're meeting their needs and clearly demonstrates the value of the client as a member of the team.

Now, the **process**…. One could write at length on each of the following steps in the facilities acquisition process. The point I want to stress is that each is just as important as the others. Success comes as each step, done well, builds on the step before. All steps in the process must be complete and thorough to provide a good foundation for the project. Let's walk briefly through the basic steps:

1. Planning: Assisting the client in developing a solid project, with the right scope, an accurate cost, on the right site that is environmentally clean.

2. Programming: Providing adequate, timely documentation so the project will be supported as it moves through the funding phase.

3. Budgeting: Developing a Parametric Cost Estimate, successfully defending the project throughout the budgeting phase, and getting an authorization and appropriation with the right color money that matches the scope.

4. Project Management: Orchestrating the process among all members of the team.

5. Acquisition Strategy: Selecting the best strategy given the particulars of the project such as timing of the project, complexity of the project and type of facility being constructed.

6. Design: Ensuring design or design-build results in a safe, healthy, functional, sustainable, and aesthetically pleasing facility within the project budget.

7. Construction: Completing the project on time, with minimal cost growth and quality workmanship, all the while providing a safe work environment.

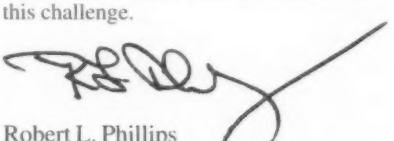
8. Fit Out and Commissioning: Ensuring equipment, systems furniture, etc. is installed, HVAC is balanced and the client moves in on time.

9. Operation and Maintenance: Ensuring the client receives equipment documentation and training, and can easily maintain and operate the facility.

Now, let me tell you about a project in the Norfolk area. A $20 million F/A-18 tactical jet flight simulator, which included both new construction and renovation of existing facilities, was recently completed at Naval Air Station (NAS), Oceana, in Virginia Beach. This project contained multiple phases with compressed completion dates to allow the relocation of training functions associated with the closure of NAS Cecil Field in Florida. The contract was awarded to other than the low-price proposer under the Best Value Source Selection process. The Navy committed to having a full time, on site project team, along with engineers from various disciplines from the designer of record, which resulted in quick processing of project documents and timely resolution of field problems. The contractor endured three hurricanes, a manufacturing strike and the bankruptcy of a mechanical subcontractor, yet finished 50 calendar days early. The client was delighted with the end product.

So why do you suppose this project was such a success despite these challenges? The reason is simple – we had a great team of **people**…the right people, and the facilities acquisition **process** was properly followed with each step along the way being done right.

I challenge each of you to make our project teams and processes the very best they can be. And remember, all of us in the NAVFAC family are on one team and should be speaking to our clients with "One Facilities Engineer Voice"! I know you're up to this challenge.



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Navy Civil Engineer is intended for the information of regular and reserve personnel of the Civil Engineer Corps, United States Navy, and key civilian employees of NAVFAC, subordinate commands, and other mission-oriented activities.

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Naval Compound Closing Honored in San Bruno

More than two hundred guests attended a ceremony on July 25, 2001, to mark the closing of the 55 year old plus naval compound that has been home to EFA WEST and recognize the accomplishments of its civilian staff. "The Navy's history in San Bruno began nearly 60 years ago, right after Pearl Harbor, with the construction of the Advance Base Training Depot on property that straddles what is now El Camino Real," Captain Greg Buchanan, commanding officer of EFA West, said during remarks at the ceremony.

The restructuring of EFA West headquarters from a staff of more than 1,100 less than 10 years ago to its current numbers of less than 70 had rendered the 20 acre San Bruno compound too much for the Navy's needs. So, the decision was made to sell the compound and relocate the headquarters staff to new offices in Dale City, just south of San Francisco. GSA arranged for an auction of the San Bruno compound. The auction was held last October and it netted the U.S. government $25.5 million. Half of the auction proceeds will be used to pay for an all-inclusive five-year lease for the Daly City offices.

During the ceremony, Captain Buchanan acknowledged the contributions of numerous EFA West employees and former employees with length of service awards. Captain Gary Engle, Commander of Southwest Division Naval Facilities Engineering Command, presented Vince Clementi with the Navy Superior Civilian Service Award. This is the second highest award that can be given to a Navy civilian employee. "The strength of this command is not in the buildings of EFA West but in its people," CAPT Engle said during remarks after presenting the award to Clementi.

More than 200 guests attended the July 25 ceremony that marked the closing of the San Bruno compound.

Construction in Full Swing at Navy Lodge Site

by JO1(SW) Scott Sutherland

The Navy Lodge construction project is in full swing in San Dieg,Calif. as the Navy Exchange Service Command (NEXCOM) moves toward its goal of opening up the new addition in February 2002. Harper Construction Company began ground work in February on a site north of the existing lodge. The site originally had outdated lodge rooms that were in need of demolition and repair. Nielson-Dillingham Builders will design and build the new 104-room addition. The total project cost is $7.9 million.

According to Dave Williams, the project manager from SOUTHWESTDIV, the work includes substantial upgrades to the existing landscaping, which are streetscape and additional parking. "The upgrades will blend the existing Navy Lodge, and the new construction, into an integrated whole," said Williams. SOUTHWESTDIV's involvement in site planning included the development of all primary areas of usage, including parking, street enhancement, and functional and aesthetic building positioning.

"Each specialized room within the project was carefully addressed from a technical and design perspective by SOUTHWESTDIV prior to issuing the comprehensive request for proposal (RFP) to the various contractors," said Williams.

The completed project will help enhance NEXCOM's mission of "providing reasonably priced, quality lodging facilities" at its 42 Navy Lodges, worldwide.

President Bush Observes Energy Management At Work At Camp Pendleton

by Jennifer Dunaway, P.E.
Utilities Business Line Team Leader
Camp Pendleton Area Focus Team
SOUTHWESTDIV, San Diego

President Bush visited Marine Corps Base (MCB) Camp Pendleton, Calif., on May 22, 2001, where he spent time visiting with Marines and taking a tour of the Energy Management System (EMS) Control Room (Unity Room). The President was shown how the system works and what its capabilities are in terms of monitoring and managing energy usage on base. Attendees of the visit noted that "the President was extremely impressed by the EMS. The President stated the EMS was "outstanding" and "a fine piece of hardware", and hoped systems such as the EMS were installed throughout the Department of Defense.

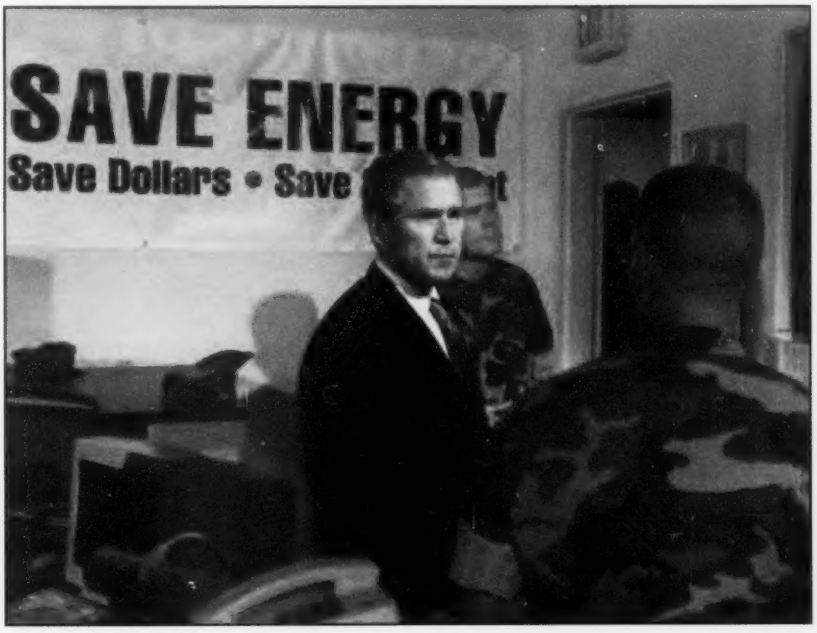
Naval Facilities Engineering Command, Southwest Division (SOUTHWESTDIV), was key in the implementation of the EMS and the overall energy management and conservation program at MCB Camp Pendleton.

SWDIV negotiated a Basic Ordering Agreement (BOA) with San Diego Gas & Electric, the local utility company. This contract vehicle allows for sole source of a Utility Demand Side Management (UDSM) program for Camp Pendleton. Under the UDSM program, the local utility company provides utility energy audits, initial project financing and financial incentives in the form of rebates and installation of energy conservation projects using competitively selected subcontractors. Goals of the program were to meet National Energy Conservation Act energy performance goals, maximize energy and utility savings consistent with sound engineering principles, provide a fair and reasonable rate of return on investment to the Marine Corps, and increase the reliability, maintainability and capacity of existing utility systems.

The FMS/EMS conversion and construction takes place at the same time as the energy conservation projects to make the savings available for construction.

Camp Pendleton was split into six areas to match six central processing units (CPUs) on the FMS/EMS system. The base has completed three of the six phases and is presently financing approximately $14 million dollars of work through SOUTWESTDIV's contract. These three phases have reduced the energy consumption by approximately 4.1 million kilowatt hours per year, 106 billion BTU per year, and energy and maintenance cost of $1.2 million per year. The base will be executing approximately another $10 million in energy projects and audits over the next three years. These projects should reduce energy consumption by an additional 2.0 million kilowatt hours per year, 80 billion BTU per year and energy and maintenance costs of $0.6 million per year.

SOUTHWESTDIV has provided its customers a powerful tool in the toolbox in terms of dealing with spiraling energy costs as well as provide an energy management system that will be useful for years to come.



During his visit to Camp Pendleton, Calif., President George W. Bush spent time touring the Energy Management System Control Room and visiting with Marines.

SOUTHWESTDIV Prepares North Island for New Carrier

by JO1(SW) Scott Sutherland

It's been more than a year since construction began on the new aircraft carrier homeport wharf site at Naval Station North Island. If the work keeps going as planned, the Navy will have a full-service facility ready for use by Spring 2002.

The wharf is being constructed to support the USS Nimitz (CVN 68) which is scheduled to make San Diego its new home sometime this fall. With the scheduled decommissioning of aircraft carrier USS Constellation (CV 64) sometime in 2003, the Navy will make Naval Air Station North Island, or Naval Station Everett, Wash., the homeport for its newest aircraft carrier, USS Ronald Reagan (CVN 76), the ninth ship in the Nimitz class of aircraft carriers.

Besides the new wharf, a storage warehouse, equipment staging building, and a fleet recreation center is also being built. According to Soliman Labrador, the construction project manager for the South Bay Area Focus Team of Naval Facilities Engineering Command, Southwest Division (SOUTHWESTDIV), San Diego, the 90-feet wide by 1,300-feet long wharf runs parallel with San Diego Bay, and will connect to a recently completed pier where USS John S. Stennis (CVN 74) is berthed.

In addition to a new wharf, the project also includes construction of a storage warehouse, equipment staging building, and a fleet recreation center.

The joint venture construction team of Nova Group of Napa, Calif., and R. E. Staite, a San Diego-based heavy marine contractor, was awarded the construction contract. Included in the construction package was demolition and removal of ferry landing pier, civil, mechanical and electrical utilities work, paving and site work, dredging, environmental mitigation, and all incidental-related work at the naval air station.

As far as projects go, Labrador said this one is significant for NAVFAC. "This is one of the largest projects out of SOUTHWESTDIV," he said. "The project is valued at approximately $51.3 million."

Not only is this project massive, it is also community friendly to the city of Coronado. The Navy has avoided more than 18,000 truck trips through the city by establishing cement batch plant on the naval air station, as well as using barges and ships to bring in other material needed to construct the wharf.

Besides gaining a new carrier homeport site, the Navy is also helping create a unique habitat enhancement area.

"The project is creating eight 1.5 acres of inter-tidal and sub-tidal habitat, as well as additional habitat for the endangered Snowy Plover, and eelgrass," said Labrador. "The project is also making some beneficial use of dredged materials by creating an enhancement site. All the material from the site is being pumped from the air station to Naval Amphibious Base (NAB) Coronado using a hydraulic dredge pumping system. Dredged material is pumped through a four-mile submerged pipeline along the channel. This site took a lot of coordination and effort between the Navy, regulatory agencies, and the public. We feel the enhancement site is a win-win situation for everybody."

SOUTHWESTDIV's natural resources specialist Mitch Perdue said the partnership among the Navy, U.S. Fish and Wildlife Service, California Department of Fish and Game, and the National Marine Fisheries Agency, makes this "the largest enhancement project ever in San Diego Bay."

"We're using half a million cubic yards of sand to create an island for habitat enhancement," he said. "Wildlife will be able to use this to forage for food."

Perdue added that since the early 1900s, San Diego Bay has lost nearly 90 percent of its inter-tidal area. "This project represents the first time an effort is being made to bring some of that area back," he said.

"If this enhancement project is successful, it could be used as a model to help develop other inter-tidal areas along the West Coast."

Construction on the aircraft carreir homeport wharf site is schedules for completion in Spring 2002.

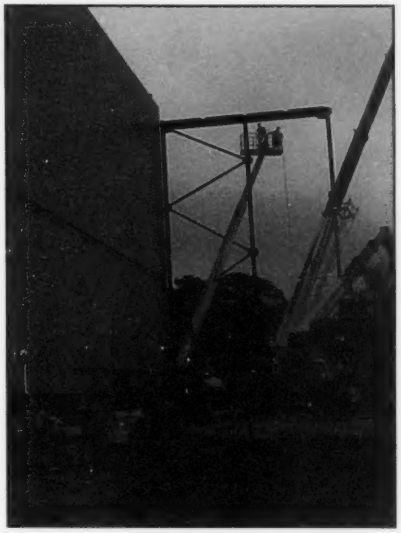
Driving Piles Without Making Noise

by Kevin McCullough

In fall of 2001, Marine Corps Air Station, Camp Pendleton, will have a new addition to its highbay warehouse. This $7.5 million project, managed by SOUTHWESTDIV ROICC office, is in support of the air station's Supply Unit and will double the amount of storage facility the Marines currently occupy.

The new warehouse will be fully automated to allow computerized retrieval of aviation equipment and parts. All equipment stored in the warehouse will be categorized and stored in bins. The Marines need only identify the desired equipment on the computer. The computer system will automatically locate the bins of the desired part and will retrieve the equipment from that location.

This warehouse is also unique in its construction. Because the addition is adjacent to an existing warehouse building, special care was taken to avoid disturbances to it while the foundation was being placed. A unique foundation pile system was selected for this project.



Framing begins on a new addition to the highbay warehouse at Camp Pendleton, Calif.

The Tubex Grout Injection Pile System uses a steel pipe casing with a patented drill tip to bore for pilings. The system consists of an 18-inch steel pipe casing, with a 2-inch steel pipe placed inside, and a field-welded patented drill bit. Using constant vertical load and torque, the pile is bored into the ground, compacting the soil around the piling. Starting at a depth of 10 feet below grade, grout is injected into the surrounding dirt through the smaller pipe. The rotation of the pile, in conjunction with the design of the tip, produces a soil-cement mixture around the casing. After the piles are bored to 50 feet, a reinforcing cage is placed and filled with 4000-PSI concrete.

A view of the welded drill tip used in the boring operation

Three test piles were installed and tested resulting in only a 0.3 inch settlement and 0.06 inch uplift. The installation of this pile system proved to be free of vibration with a very low noise level. The goal to not undermine the adjacent foundation and disturb the sensitive equipment in the building was fully achieved.

EFA SOUTHEAST Established in Jacksonville, Fla.

Commander, Southern Division, Naval Facilities Engineering Command has announced the establishment of a new Echelon IV Command in Jacksonville, Fla. The Navy's newest command will be known as Engineering Field Activity, Southeast, or EFASE for short. EFASE is a subordinate command of Southern Division, Naval Facilities Engineering Command, located in Charleston, S.C. The mission of EFASE will be to provide customers a "single touch point" for the entire spectrum of Naval Facilities Engineering Command's products and services in the Jacksonville, Mayport, Kings Bay and Orlando areas. The headquarters facility for EFASE will be located at the Naval Air Station in Jacksonville. The new command will have approximately 84 civilian employees and seven military personnel. The Commanding Officer of EFASE is Captain Steve Duba, CEC, USN. Additionally, Captain Duba will retain his duties as Regional Engineer for the Commander, Navy Region Southeast, as well as Commanding Officer of the Public Works Center in Jacksonville.

PWC San Diego Receives 2001 President's Quality Award

PWC San Diego (PWCSD) recieved the Award for Quality Improvement at the 2001 President's Quality Award (PQA) ceremony in Washington, D.C., in August. The PQA Program is the federal government's equivalent of the Malcolm Baldridge Award for Performance Excellence in the private sector. The Award for Quality Improvement is the second highest award in the PQA program. PWCSD is the first Navy Region Southwest Command and the first Pacific Fleet Command ever to reach this level, and did so despite this being the first time they submitted an application.

The program's process requires submission of a detailed application describing the organization's performance in seven areas of evaluation considered essential for achieving excellence. The seven areas, which mirror those of the Baldridge criteria, are: Leadership; Strategic Planning; Customer Focus; Information and Analysis; Human Resources; Process Management; and Business Results.

A panel of experts reviews the write-up, and decides whether the organization has progressed enough to merit a site visit from a team of PQA examiners. If selected for a site visit, the team of examiners spends an intensive several days with the organization, clarifying and verifying the information in the application. For the 2001 program, only nine federal government organizations were selected to receive a site visit. Following the site visit, a panel of judges reviews the application and site visit results and gives the activity a final score. PWCSD's final score was in the 451-550 range after the site visit.

The PQA is administered by the Office of Personnel Management and includes four awards: The Presidential Award for Quality, which is for sustained improvements over several years, and the Award for Quality Improvement, which is for achieving early results in an organization's quality journey. There are also merit and finalist awards.

Marvin Shields Award Winner Announced

The Society of American Military Engineers (SAME) has selected Equipment Operator First Class (Seabee Combat Warfare) Terry R. Cape as the recipient for the 2000 Marvin Shields Award. The Marvin Shields Award is presented annually by SAME to recognize a Seabee who has made exceptional contributions to military construction, facilities maintenance, training, or readiness. Cape distinguished himself while assigned to NMCB 74 from January to December 2000.

As the Assistant Officer in Charge and Lead Blaster for the Deployment for Training (DFT) Alaska, Cape displayed extraordinary expertise and leadership skill. DFT Alaska was assigned to the Walton Point Road Project as part of Joint Task Force Alaska Road. This project involved constructing a 14-mile, two lane road connecting the village of Matanlakala to the northern end of Annette Island, Alaska. He led 18 Seabees in one of the largest drilling and blasting operations undertaken by the U.S. military since World War II. For seven months, his Detail conducted drilling and placing of 172,000 pounds of explosives that produced 240,000 cubic yards of rock, a 141 percent increase over the previous DFT. Cape's attention to detail in designing blasts resulted in over 75 blasts without mishap or misfire.

Additionally, he took charge of the equipment program for the entire Joint Task Force. After quickly identifying problem areas, he instituted an equipment-tracking and preventive maintenance program, and ensured that all task force personnel completed required daily prestart inspections. His improvements to the current equipment utilization program reduced maintenance and equipment downtime by 50 percent.

Equipment Operator First Class (SCW) Terry R. Cape

PACDIV Big on Small Business

PACDIV has once again topped its support for small business. During the Small Business Administration (SBA) 8(a) annual training and awards conference June 21, PACDIV earned honors for outstanding support to the SBA 8(a) program during fiscal years 1999 and 2000.

The SBA award is given to an individual or organization that has "demonstrated extraordinary support and advocacy for small business contracts to 8(a) firms." The Honolulu district of SBA manages the 8(a) program for Hawaii and Guam and includes more than 100 local and Guam 8(a) contractors in its portfolio.

PACDIV and its field offices, including Guam, awarded $22 million in FY99, and even more in FY00, topping $36 million. Most of the businesses awarded contracts are from Hawaii. As of the end of April, PACDIV has awarded $17 million of 8(a) contracts.

8(a) is a section of the Small Business Act of 1958. "Section 8(a) permits the Small Business Administration to enter into contracts directly with procuring agencies and then subcontract the actual performance to the private sector," said Flo Pang, PACDIV's small and disadvantaged business utilization/contracts labor relations advisor.

"The 8(a) awards represent approximately seven percent of our total procurement budget," said Pang. The functional breakdown of these procurements is approximately 50 percent construction and 50 percent services.

PACDIV actively supports the government's policy of providing maximum practicable opportunities in the award of contracts to qualified small, small disadvantaged, and women-owned small businesses, including historically black colleges and universities/minority institutions (HBCU/MI), the National Industry for the Severely Handicapped (NISH) and historically underutilized small business that are certified in the 8(a) program.

Pang explained that the size of an 8(a) business varies. In the construction or service industry, $27.5 million in annual receipts determines the size of a small business, not the number of employees. "Different industries will have different size standards. But an 8(a) company has to be small or socially and economically disadvantaged."

E-NET and Knowledge Management at NAVFAC

Do you need to find an expert in pavements or find out who your local interior design support staff might be? The Chief Engineer, Dr. Get Moy, P.E., and the NAVFAC Engineering Community have been building the Engineering Network or E-NET to meet the engineering needs of the Navy and its installations through better leveraging of the extensive knowledge base of engineering experts and practitioners throughout NAVFAC.

The Community Management program has been established to deal with impending retirements, the impact of significant downsizing and the need to engage the education, training, and career development requirements of the Defense Acquisition Workforce Improvement Act (DAWIA). Dr. Moy has taken the lead to improve communication and knowledge sharing within the NAVFAC Engineer Community and with our customer base. NAVFAC is taking action now to ensure that the engineering workforce will be prepared to perform its mission, respond to the changing business needs of the Navy, and an increasingly more sophisticated customer base.

The expertise management program is executed through knowledge sharing in Communities of Practice (CoP) in the E-NET. These CoPs are focused on functional areas (e.g., pavements, interior design, environmental compliance, ocean engineering, military operations, etc.). A senior Technical Discipline Leader (TDL) leads each CoP consisting of practitioners and subject matter experts focused on enabling the identification of specialized expertise and sharing of that expertise and collaborating to solve problems in real time. E-NET is the knowledge base to support NAVFAC managers throughout the installation life cycle. The E-NET is hosted on NAV*FACilitator, the NAVFAC Intranet, and provides supporting web-based tools. TDL's have created web pages, accessible from the Communities of Interest icon on the NAV*FACilitator home page, for each functional area to provide access to needed contacts and information.

You can access the E-NET and the extensive list of NAVFAC experts at http://navfacilitator.navfac.navy.mil/cheng/enet/enet.htm. If you have questions about the E-NET contact Dr. Get Moy, P.E., at moygw@navfac.navy.mil. Please send your technical questions concerning the E-NET web site to enetwebmaster@navfac.navy.mil.

You will find Community of Interest pages, more information about the E-NET and a place to enter and share your best practices and lessons learned. Begin to leverage the E-NET and become part of Knowledge Management.

NAVFAC's Electronic Soliciation Web Site Wins Award

NAVFAC's Electronic Solicitation web site (ESOL) won the 2000 Best Department of Defense Electronic Commerce Web Site Business Implementation Award, which was presented at the DoD E-Commerce Day on 7 June. The ESOL web site, www.esol.navfac.navy.mil, is the single site for viewing and downloading solicitations for NAVFAC's construction, architect/engineer and facilities services contract work around the world. It has eliminated the expense, workload and delays from printing and distributing up to 200 sets of paper-based solicitations. It also has eliminated the Plan Issue Rooms at NAVFAC contracting offices, streamlined the solicitation business process and saves NAVFAC $19 million per year in printing and mailing costs.

More than 15,000 contractors are registered on the web site, and on a typical day, 2,600 hits are registered and five gigabytes of information is downloaded. To further enhance communication overseas, ESOL has foreign language capability. This table driven feature inserts Japanese, Italian and Spanish translations of the English navigation text throughout the site.

However, ESOL is more than a web site for downloading solicitations. It is a communication tool between NAVFAC and industry throughout the pre-award process. ESOL interfaces with the Navy Electronic Commerce Online (NECO) site so contractors can search for solicitations from either ESOL or NECO. From ESOL, contractors can instantly view an entire solicitation, including technical drawings, to determine if they wish to submit an offer. Contractors, subcontractors and suppliers can see which firms have registered for the solicitation, so they can make contact to offer services or request quotes. Contractors registered for a solicitation automatically receive e-mail notification when a solicitation or an amendment is posted. They can also register for any pre-bid conferences and view bids.

Besides eliminating the printing and distribution of paper solicitations, ESOL helps manage source selections. When the competitive range is determined or narrowed, e-mail notification of, and access to further amendments goes only to firms still being considered for award. Similarly, for orders being competed under multiple award contracts (MACs), ESOL sends e-mails and grants access to solicitations solely to MAC firms.

EFA NORTHWEST Employee Wins Moreell Medal

On May 30, 2001, Mr. Jai Jeffery of Poulsbo, Wash., was presented the Society of American Military Engineers' Moreell Medal. The medal is awarded annually by the Society to a civilian or military nominee in recognition for an exceptional contribution to military engineering.

As a Lead Environmental Remedial Project Manager for Engineering Field Activity, Northwest (EFA NORTHWEST), Naval Facilities Engineering Command, Poulsbo, Wash., Jeffery managed two extremely complex, challenging dredging projects at Naval Station Bremerton and the Puget Sound Naval Shipyard. His unprecedented approach to simultaneously accomplishing these very difficult engineering initiatives resulted in cost avoidance and savings of more than $17 million due to the economies of scale and scheduling efficiencies achieved. Despite extraordinary regulatory challenges, Jeffery combined a military construction (MCON) carrier homeport expansion dredging project with a national priorities listed project to clean up contaminated sediment under the Comprehensive Environmental Responsibilities, Compensation and Liabilities Act (CERCLA). He coordinated with more than 20 federal, state, and local regulatory agencies and numerous Native American tribes throughout the Puget Sound area to resolve sediment and contaminant disposal, natural resources, and endangered species issues associated with in-water work in a Native American tribal harvesting area. Delivery of these two projects will enable a $65 million pier construction project to move forward. The project will significantly enhance aircraft carrier battle group assets in the Pacific Northwest.

Jai Jeffery

Portrait of an ARTIST

After more than 30 years of federal service, Bill Brack retired from the Naval Facilities Engineering Command. Over the years, Brack's drawings and artwork brought flair to countless NAVFAC publications and presentations. What follows is only a small sampling of Brack's talent. From *Navy Civil Engineer* magazine covers to brochures to presentations, Brack provided an invaluable service to NAVFAC, the Civil Engineer Corps, and the Seabees.

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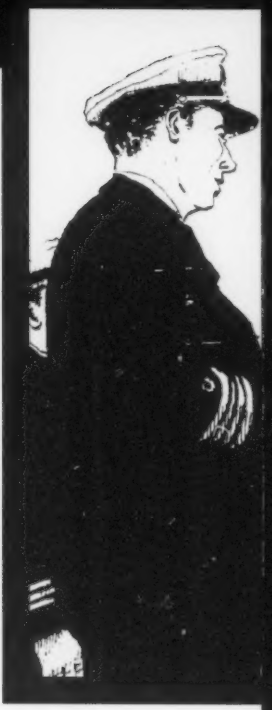

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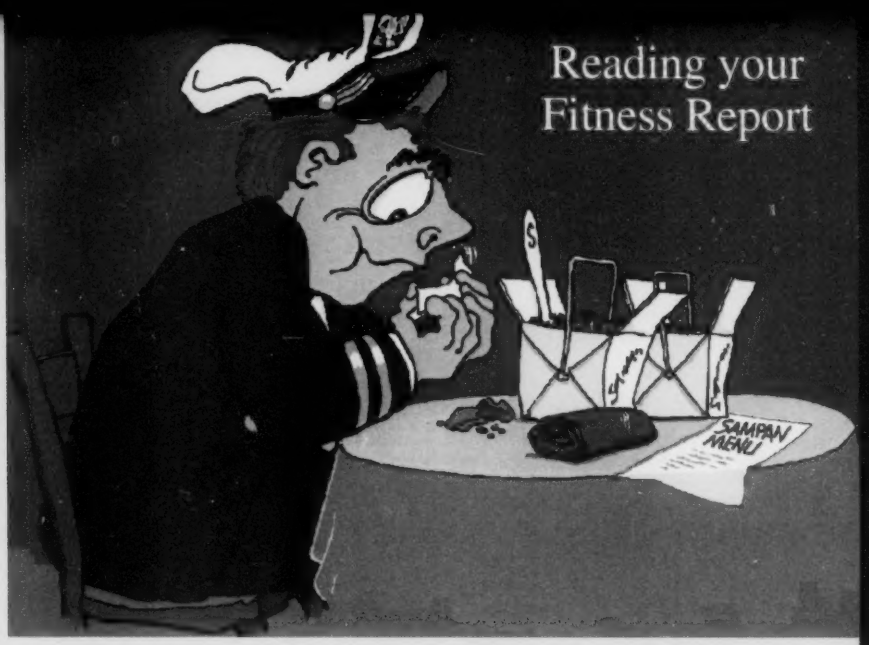
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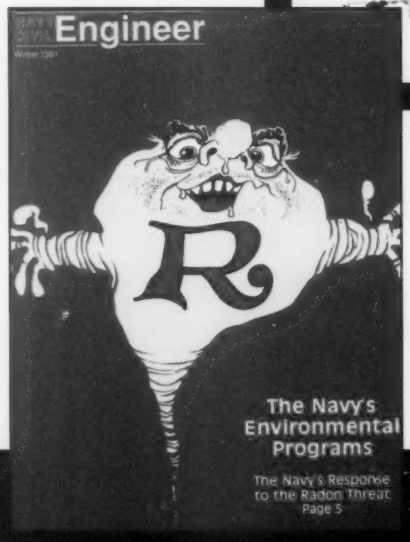
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NAVSEA Headquarters

Photo by Al Lawrence

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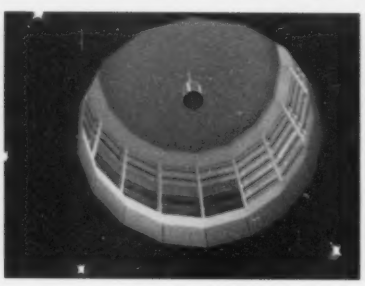

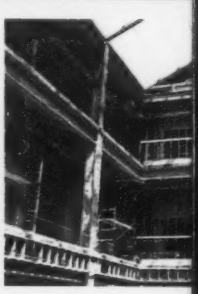

Photos by Al Lawrence

the Future

By Commander Jeffrey T. Borowy, CEC, USN, PE

On March 2, 2001, the Commander, Naval Sea Systems Command (NAVSEA) officially welcomed aboard 4,200 headquarters employees to the one million square foot complex in the historic Washington Navy Yard in Washington, D.C. Two stories above the attending ribbon cutting crowd was the 250 ton crane once used to move 16 inch guns, the Navy's largest ever, down the assembly line. Now part of a dramatic four story light court which provides the interior spaces with natural light, the crane also represents NAVSEA's return to a site rich in naval history spanning shipbuilding in the early 19th century to weapons fabrication lasting to the mid-20th century. The ceremony also honored the work of the Naval Facilities Engineering Command and its many contractors which completed the world-class $170 million project ahead of Base Realignment and Closure (BRAC) mandates.

Above left: A view of a NAVSEA building, located at the Washington Navy Yard, Washington, D.C. The project included the demolition of six buildings; construction of one new building; two building additions and a 1,500 car parking garage; renovation of three historic buildings; and associated sitework. Below left: Various features of the NAVSEA project, both during and after construction.

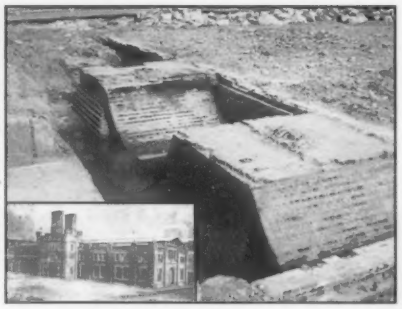

Photo courtesy of the Naval Historical Center

Photo by Al Lawrence

Near right: *Archeological investigation of 19th century remains during construction rather than during the traditional planning stages resulted in significant cost avoidance. Pictured is the foundation of the Dahlgren Foundry. The inset shows the structure as it appeared in the late 1800's.*

Far right: *A look at one of NAVSEA's buildings.*

In December 1997, a design/bridge/build contract was awarded to Turner Construction Company via best value source selection. The "bridge," a 35 percent design, had critical National Capitol Planning Commission and Commission of Fine Arts approval, a unique element of construction planning in the District of Columbia. An additional design/build contract was awarded to Forrester Construction Company in January 2000 to fully meet space requirements. Ultimately, the entire project included the demolition of six buildings; construction of one new building, two building additions and a seven story, 1,500 car parking garage; renovation of three historic buildings; and associated sitework including roads, pedestrian paths and a park. All in all, one million square feet of office space--equal to more than 17 football fields--was constructed during the project.

During the project which supported the largest single office relocation in naval history, the Navy's planning, design, and construction agent, Engineering Field Activity Chesapeake, Washington Navy Yard, overcame numerous challenges and unique issues. EFA Chesapeake's field office, Resident Officer in Charge of Construction BRAC, which had been established to handle contract administration for all BRAC projects in the WNY, was also tasked with the NAVSEA project.

It was estimated that the construction and fitout overlap resulted in a cost avoidance of $4.4 million for Navy leased space.

Overcoming Challenges

The first hurdle was driven by unanticipated environmental conditions, resulting in a $16 million modification. Prior to contract award, the Navy and Environmental Protection Agency (EPA) signed a Resource Conservation and Recovery Act (RCRA) 7003 consent order to govern the study and corrective actions for Washington Navy Yard storm sewers, soils and groundwater. Impact of this consent order, the Navy's first ever, was not realized until after award when EPA provided its position that the entire Washington Navy Yard was to be considered a hazardous waste site. This significantly changed the means and methods employed by the construction contractor. EFA Chesapeake's field office, ROICC BRAC, was tasked with applying the new requirements of environmental training for all employees (peak of 600 workers on-site per day), medical surveillance, groundwater testing, air monitoring and the resulting seven month delay with associated costs environmental requirements to the contract. To the credit of Commander Paul Fuligni, the first ROICC BRAC, and Mr. John Denton, the contracting officer, the change was successfully negotiated and conformed bilaterally.

Significant archeological work during construction provided a unique aspect to

the project. The contractor was required to have an archeology team analyze former building sites during excavation. By being able to integrate this investigation with his foundation activities, the contractor minimized impact on the project's critical path. The work also provided a unique look into the past of the Navy's oldest shore installation. On the site of Building 201, the foundation of an early 19th century timber boat house, in which some of the Navy's first ships were constructed and repaired, was unearthed. Two blocks away, the elaborate foundation of the infamous Dalgren Foundry designed by Admiral John Dahlgren, the father of naval ordnance, was discovered. Overall, the resulting work of documenting building locations and types with sketches and photographs, and archiving of artifacts during construction excavation rather than during the planning stages, saved the Navy significant time and money.

Another challenging aspect of the project was client fitout during construction. Starting in April 2000, the installation of 1,300 miles of telecommunication and security wiring and systems furniture began. Wiring was pulled after wall construction and access floor installation. Following carpet installation, furniture would then be assembled in-place. It was estimated that the construction and fitout overlap resulted in a cost avoidance of $4.4 million for Navy leased space. Managing the integration of the prime construction contractor and their subcontractors and NAVSEA's contractors was no small task. Said team leader Lieutenant Commander Jim Boudo, "The cooperation and teamwork by everyone made the integration process work as well as it did. The process wasn't easy or perfect and we had our disagreements, but we were all working toward the common goal of moving NAVSEA into their new spaces on time."

As it is with most large construction efforts, bringing mechanical and electrical systems on-line proved to be a significant challenge. A commissioning team was formed on this project with the construction contractor, Public Works Center Washington, ROICC BRAC and other Navy experts, who successfully worked together through design, installation, testing and initial operation of the 20 elevators, 28 air handling units and 1,320 fan powered boxes. This active approach was successful in identifying issues during construction, which reduced the number of problems during occupancy. In keeping with the concept of "one engineer voice," Lieutenant Junior Grade Dan Walulik from ROICC BRAC and Mr. Bernie Gast from PWC spearheaded the Navy effort to ensure a quality product while maintaining essential client liaison from the three star level down to the deckplate. Awarding a one year maintenance option included in the initial construction contract for operation and maintenance of all systems also proved invaluable by allowing maintenance staff to become familiar

Photo by Al Lawrence

The NAVSEA Headquarters project included the construction of a 1,500 car parking garage.

Photo by LT Carla McCarthy

After placement of the concrete slab and belowground perimeter walls, the eight deck parking garage consisting of 1,551 precast concrete panels was erected.

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Photo by LT Carla McCarthy

A view of the NAVSEA project during construction.Ultimately, the project involved the construction of one million square feet of office space, the renovation of three historic buildings, and associated sitework..

Continued from previous page
with systems prior to occupancy and providing a seamless turnover from construction well into system use.

Sustainable Design

Although sustainable design is actively employed today, incorporation across one million square feet of office space is dramatic. The most apparent sustainable design feature of the NAVSEA Headquarters is the "recycling" of one abandoned structure and one significantly underutilized structure for nearly half of the space requirement. This meant that tons of brick, concrete, steel and roofing materials would not be replaced with new. Energy efficient building envelope features included window glazing with a low-emisivity coating, tinted glazing on south and west exposure elevations and light courts to bring indirect light to interior spaces. Heating, ventilation and air conditioning features resulting in energy savings included high efficiency chillers, fans and pumps; a primary and secondary pumping system with variable frequency drives to save pump energy; and fan powered boxes to reduce the volume of central air provided and returned to the air handlers. Several lighting features such as private office occupancy sensors and daylighting sensors which adjust illumination based on the amount of exterior light will also reduce long-term operating costs. Overall, it is anticipated that the sustainable design features will save the Navy $475,000 per year.

Partnership is the Key

At the heart of the project was the partnership developed by the ROICC and the NAVFAC team, two prime construction contractors with more than 70 subcontractors, clients (NAVSEA and its contractors) and the activity (Naval District Washington, including PWC). All entities worked together toward the common goal of providing a world-class, best value, facility on time. By working through issues to avoid significant claims, having client representation on-board continuously from initial concept and expanded communication between and up and down all organizations, NAVSEA employees are now enjoying their return "Back to the Future" in the Washington Navy Yard.

CDR Jeff Borrowy, CEC, USN, PE, served as ROICC for the NAVSEA project.

Crossing the Finish Line

The Navy Napalm Removal Project comes to a successful end

By J. D. Bridgance

The Navy Napalm Removal Project (NNRP) celebrated the passing of a major milestone on April 4, 2001, when the then Acting Secretary of the Navy, Robert B. Pirie Jr., witnessed the ceremonial processing of the final two canisters of napalm at the napalm hazardous waste separation facility in Fallbrook, Calif. Although several tasks remain to be completed before final project closeout, the elimination of the last of the more than 34,000 stockpiled canisters is the final disposal of one of the last tangible legacies of the Vietnam War.

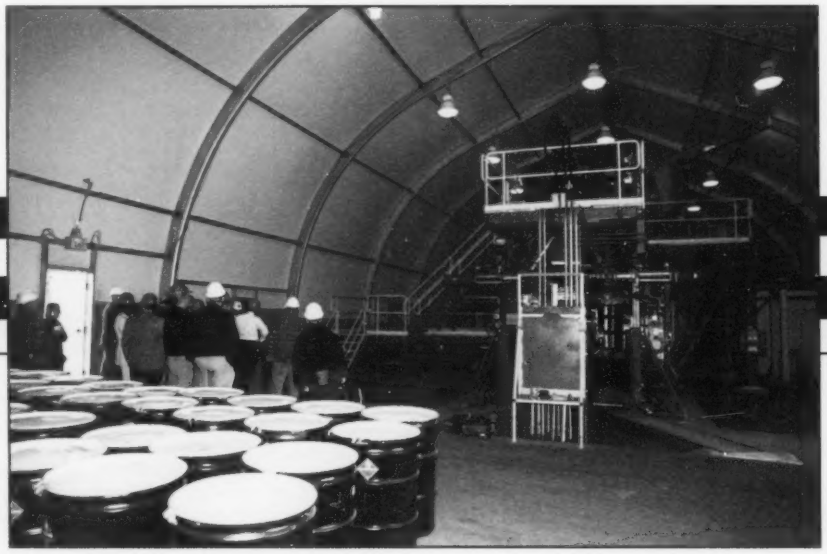
The NNRP, officially undertaken in 1996 by Southwest Division, Naval Facilities Engineering Command (SOUTHWESTDIV) in San Diego, Calif., is a non-time-critical removal action (NTCRA) conducted under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and is designed to address the problems encountered by the Naval Weapons Station in transitioning the ammunition stockpile from a munition to a hazardous waste. The napalm stockpile consisted of more than 34,000 cigar-shaped, 10-foot long, individually crated aluminum canisters, approximately half of which weighed 500 pounds and the remainder 750 pounds each. The stockpile was maintained outdoors from the early 1970s until April 2001 at three locations on the grounds of the Naval Weapons Station Seal Beach, Detachment, Fallbrook, Calif.

Under CERCLA, the proposed NTCRA was being undertaken to remove the potential, or threat of release, of hazardous substances or contaminant to the environment. The threat was primarily to air quality from the evaporation of benzene and gasoline contained in the napalm. The primary objective of the removal action was to *safely, permanently and responsibly* dispose of the napalm stockpile. The secondary objective was to *recycle and reuse* each waste stream to the maximum extent possible and without creating additional waste. The project has enjoyed a huge success in the accomplishment of all these goals.

Napalm is a homogeneous mixture consisting of approximately 46 percent polystyrene, 33 percent gasoline (leaded and unleaded), and 21 percent benzene. The high polystyrene content is known to generally prevent percolation of gasoline and benzene components into soils. At the time the wooden crates were manufactured, they were treated with wood preservatives. Both the napalm and the wooden crating materials are hazardous wastes. Napalm is hazardous due to toxic and ignitable characteristics, while the wooden crating materials are only considered hazardous waste in California (due to preservatives) and other states with reciprocity agreements with California regulatory agencies.

In removing and disposing of the napalm stockpile, the napalm canisters were individually removed from the storage areas to a materials separation and processing area built on site. Munitions were separated into three hazardous waste streams: napalm, aluminum and shredded wood. Each waste stream was prepared for safe transport, treatment and recycling. The separation was accomplished inside specially designed, state-of-the-art computer-controlled machinery that was sealed, contained a continuously purged, nitrogen-filled environment and included continuous off-gas treatment and monitoring.

The napalm waste stream was transported primarily by rail in U.S. Department of Transporation approved 6,000 gallon "iso-tanks," the shredded aluminum canisters in sealed 55 gallon drums loaded inside steel shipping containers, and the shredded wooded crates were transported in 40-yard covered shipping containers.



An April 4, 2001 ceremony marked the completion of the Navy Napalm Removal project.

The napalm, shredded canisters and shredded wood were then properly manifested and shipped for off-site processing at facilities permitted to accept and process CERCLA waste.

Treatment of the napalm waste stream was accomplished by blending at approximately a 50-50 ratio with toluene, forming a "blended specification fuel" (BSF) for use in industrial boilers and furnaces. Treatment of the high grade shredded aluminum waste stream was accomplished by washing the shredded aluminum with toluene that was later used for blending, which eliminated one tangential waste stream. Subsequently, the decontaminated aluminum was transported to commercial smelters for reuse in the making of aircraft landing gear and engine blocks. Treatment of the shredded wood waste stream was accomplished by recovery of the heating value of the wood by burning it in a boiler to produce useful steam.

Blended Specification Fuel

The Department of the Navy considered the energy content of the large napalm stockpile to be too valuable to waste. However, there were problems to be overcome both scientifically and politically before the napalm could be used as an energy source. The scientific problems included solubility in a proper fuel matrix, methods to ensure complete combustion, and safety in transportation and handling.

The napalm could not be burned directly as a fuel because the high heat content exceeded permit conditions of industrial boilers and furnaces. Additionally, due to the high plastic content, there would be great concern that normal spray nozzles of combusters and burners would plug. However, if napalm could be blended with a carefully chosen diluent to form

The napalm stockpile consisted of 34,000 cigar-shaped, 10-foot long, aluminum canisters.

some other fuel matrix that maintained the plastic in homogeneous suspension, provide a higher flash point for safer handling and provide a heat content acceptable under the permits of the facilities that could best utilize the napalm-derived fuel as an energy source, then commercial disposal and heat recovery of the material could be achieved. Tests were performed on the napalm mixture to determine an optimal co-solvent in terms of solubility, flash point and heat content. Based on these tests, the choice was between toluene and xylenes.

The GNI Group, in Deerwood, Texas, the blending facility for the napalm, also conducted tests to determine what co-solvent blends would provide the proper viscosity and heat content. The BTU content of the napalm is 18,383 BTU/lb. But for most boilers and industrial furnaces, napalm would need to be blended to reduce the BTU value to below 5,000 BTU/lb or, for use in cement kilns, this value would be between 10,000 and 12,000 BTU/lb. The combination of tests revealed the optimal co-solvent to be toluene, which maintained solubility of the polystyrene, reduced the viscosity, increased the flash point and, at approximately a 50-50 mix, arrived at the proper heat content for use as an energy source.

Shipment Concerns

By August 1997 the prime contractor, Battelle Memorial, had entered into a contract on behalf of the Navy with Pollution Control Industries (PCI) of East Chicago, Inc. for recycling and disposal services, as well as a number of contracts with other vendors for transportation, operation of the waste separation facility, containers, material handling, etc. The physical properties of napalm make it safer to transport than gasoline. All shipments were to be properly containerized and manifested and the greatest care was taken by project managers to obtain safe and reliable transport on each leg of the trip, primarily rail. The Navy had a special train just for the napalm transportation.

The policy of SOTHWESTDIV on the Napalm Project was to contract only with companies with exemplary regulatory records, among many other criteria. On April 11, 1998, the first shipment of napalm left Fallbrook.

During May and June of 1998, SOUTHWESTDIV, the Department of Navy and Battelle began to reassess the strategy for a successful path forward on the project. Identification and technical evaluation of firms that met project requirements were conducted, public outreach teams were organized. "Red Teams" were formed to re-evaluate almost every aspect of the project. New facilities that met the needs of the project were located in Texas and Louisiana and they were enthusiastic about helping the Navy. The Navy outreach teams spent several months in the local communities informing local officials and citizens about the realities of napalm and its relatively benign physical properties. The outreach teams were assisted by a multitude of brochures, a Navy-produced video the teams showed and distributed to thousands of local residents and officials.

The NNRP completed the majority of the napalm processing during 1999 and 2000, with the celebration of the completion of this challenging project on April 4, 2001.

J.D. Bridgance was the remedial project manager for the Navy Napalm Removal Project at SOUTHWESTDIV.

The napalm waste stream was transported primarily by rail in U.S. Department of Transportation approved 6,000 gallon "iso-tanks."

Coming Full

By JO1 Andrew Scharnhorst

If there's any doubt that "what goes around comes around," a Civil Engineer Corps (CEC) officer attached to Naval Mobile Construction Battalion One in Guam is living proof.

Lieutenant Ra Yoeun, One's Alfa Company Commander, went to Thailand May 4 with a group of 20 Seabees to build a schoolhouse in the Thai town of Rayong. The project is part of Deployment for Training (DFT) Cobra Gold '01, an annual exercise combining U.S. and Thai units.

The Thai people helped him when he was just reaching adolescence after the Khmer Rouge had taken over Cambodia. Now – more than 20 years later – he gets to return the favor.

"Our mission is to provide humanitarian and civic assistance in the form of new construction to support the Thai population," said Yoeun, the DFT's officer-in-charge.

"I feel a sense of awe. I lived in a Thai refugee camp, and the Thais did a lot of good stuff for the refugees," Yoeun added. "And now I'm heading back there, never forgetting that I used to be there, needing help – and now I'm going back, providing the help."

Yoeun estimated Rayong to be about 60 kilometers from his native Cambodia.

Getting to be a Company Commander in the Seabees is a difficult road for many. For Yoeun, it was really arduous.

In his own words, he "lived in Cambodia, went through the communist regimes, being an orphan, parents killed, spent three years in refugee camp in Thailand, came to the U.S. as a refugee, and now I'm going back" to that area. "It's not the same place I was in," he stated, "but it's a similar situation, helping out."

Yoeun was between 5 and 7 years old – he doesn't know what year he was born – when he struggled for his very survival as communist forces overran his native Cambodia in 1975.

"I was old enough to remember a lot," Yoeun said, "but not old enough to do anything. I remember carrying a kettle [of water] for my family. That's all I did."

After working in communist-led camps for several years, the Vietnamese invaded Cambodia in 1979 to break up the Khmer Rouge regime. Fleeing the warring factions, Yoeun was the only one in his family to escape Pnom Pehn, the capital: his father had been executed during a "purge" in 1976; his mother, brothers, and sister had already succumbed to famine or disease.

"Everyone in the country just fled in every direction," Yoeun recalled. Afraid to stay by himself at night, he latched onto different families, doing chores and odd jobs for food. Yoeun isn't even his real name; it's the name of a family he'd latched onto.

"The children that I was with, those that had family [still alive] and were trying to find them, I tagged along with them," said the lieutenant. "I knew my parents were dead, so there was no need for me to try and find them."

It took six months, Yoeun estimated, to get to the Thai border. "I must have had tons of families. I helped them carry stuff that they needed to carry, and in return they would feed me."

The refugees were hounded by mortar blasts and small arms fire from the Khmer Rouge even as they climbed on the buses taking them across the border into Thailand. "I'd never seen a bus before; it was the first time I'd seen an automobile," Yoeun said. In the rush to escape the oncoming forces, Yoeun was separated from everyone who was familiar to him, and at last he boarded a crowded bus, all alone.

He spent three years in a refugee camp with other children who'd lost their entire families. He soon came to realize that the life he knew in Cambodia was not necessarily the way life had to be.

"That's the first time I felt like, 'Man, this is really good; this is what life is,'" he said. "You woke up one morning in the blanket, and not worry about anything ... you can actually sleep the whole day without being kicked on or awakened by anybody." Still, it took him some time to realize that he was actually safe.

He learned how to read and write Cambodian at the camp. In 1983, when he was about 14, he was chosen for adoption by Robert and Jackie Spears, a Richmond, Va., couple in their 30s who had no children of their own.

He could neither speak nor write English, and his new family had no ex-

Circle

NMCB ONE's Alfa Company Commander, Lt. Ra Yoeun, stands among some of the heavy equipment his company uses for their projects. Yoeun left for Thailand May 4 with a team of Seabees to build a schoolhouse for Deployment-for-Training Cobra Gold '01, an annual joint U.S.-Thailand exercise.

perience with Yoeun's native tongue. However, they took a large English-Cambodian dictionary everywhere, and pointed to objects and spoke the word in English. "That helped a lot," Yoeun stressed.

Eventually he learned enough English to go study at the Collegiate School, a prep school in Richmond. When he graduated from there in 1989 at about the age of 20, he went to the prestigious Virginia Military Institute, from which he graduated in 1993 with a degree in mechanical engineering.

"VMI really opened me up as a person – physically, mentally, verbally," Yoeun reminisced. "I could hardly say a single word when I was in Cambodia, or even in the camp … VMI changed that."

Yoeun was a member of VMI's Naval Reserve Officer Training Corps (NROTC), and discovered he really liked the military way. So much so that he earned his commission as an ensign when he graduated in 1993. "I chose the Navy [ROTC]," he said, "because I liked ships."

He discovered the Seabees to be the best course in which to use his engineering degree. "Luckily, I got selected by the CEC. I love it!" he enthused.

Yoeun said the best part about being in the CEC is the interaction with the Seabees themselves, and helping them forge their professional futures – or even themselves.

"Being a Company Commander, I have, literally, a direct impact on my troops' lives and career," Yoeun mused, "be it personal or professional. And sometimes, they ask me to share with them my past … and when they've left the room, they feel like I've done something for them."

Although he knows he's worked hard to get where he is today, Yoeun credits his adoptive parents for helping him. "They were the driving force in raising me and instilled in me that sense of personal responsibility of being an American," he said humbly. "I am forever indebted to them."

Photos by JO1 (SCW) Andrew Schamhorst

Cambodian-born Lt. Ra Yoeun, front row, right, with the team from NMCB One that headed to Thailand May 4 to build a schoolhouse as part of Deployment-for-Training Cobra Gold '01, an annual joint U.S.-Thailand exercise.

NAVFAC Emphasizes

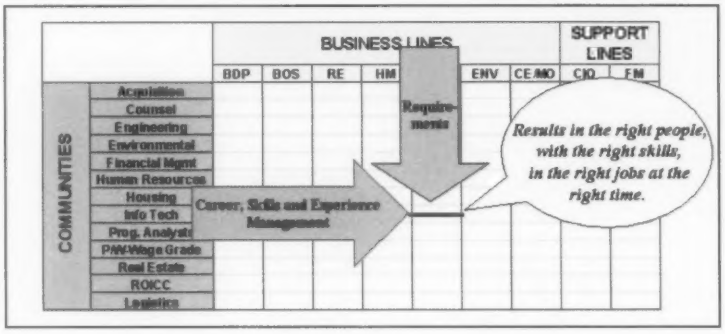
Community Management

While it is often said that people are our most important asset, I believe that statement is not strong enough. Genuinely taking care of our people is of paramount importance," said Rear Admiral Michael R. Johnson, CEC, USN, Commander, Naval Facilities Engineering Command, in his top five for NAVFAC. Recognizing the need to take care of our workforce, NAVFAC has made community management one of its key strategic initiatives to focus on the leadership and management of our people.

What is a Community? Communities are groups of people with related job series that share common knowledge and skills. The communities support all the business lines and internal support lines that span our entire global workforce including those working in the Public Work Centers, Engineering Field Divisions, and the specialty centers (Naval Facilities Engineering Service Center, Navy Crane Center, and Construction Battalion Center).

What is a Community Manager? Each community is lead by a senior person called a community manager, who is a recognized leader on the headquarters staff and expert in their field. The community manager establishes a community vision and meets the requirements for the community by assessing the business environment and the required skills, and then shaping the workforce accordingly. This total management of workforce skills includes training, mentoring, career progression, and overall provision of the workforce. This ensures that the right people with the right skills and experience are provided for the business and support lines as shown in the diagram above.

Community Manager and Business Line Integration



Community managers use the community management process to provide the appropriate skills and capabilities to the business and support lines.

The community managers outline their vision in a community management plan and execute that plan in a five-step process that uses the plan as a guide to manage the community. Likewise, the community manager uses the community management plan as a guiding document and through the community management process provides the appropriate skills and capabilities to the business and support lines.

What is a Community Management Plan? The community management plan is a web-enabled document in a specific format that lays out the definition and vision of the community (Who), the core competencies of that community (What), the career development requirements within the community (How), and the means of communications and the community management structure (Infrastructure). The plan is a summary document that provides the overall guidance to the community. The details are laid out in standard appendices for each community. The graphic to the left shows the organization of the plan.

What is the Community Management Process? The community management process is a five-step process in

The community management team at NAVFAC Heaquarters meets to discuss community management initiatives. Pictured from left to right: Joy Bird; Amy Younts, director, community management; and Hal Kohn.

which the community managers use the community management plan as the overall guide to provide and maintain the right skills and capabilities for the business and support lines. These steps include 1. developing the community management plans (community plans), 2. evaluating the workforce (evaluation), 3. developing training and managing experience (career development), 4. recruiting and ensuring a fully provisioned workforce (succession planning) and 5. reconciling resource issues with the business line leaders (BL/CM Interface). The graphic, left below, shows the command commuunity management process.

"NAVFAC believes very strongly in being the employer of choice," says Amy Younts, director, community management. "A key element of this is validating a process that our business line leaders and community managers can use for aligning our human resource policies and practices with our business plans. We call this process the 'Cycle of Life.'"

The latest human relations software, Naval Employee Assessment and Development System (NEADS), supports the entire process and success of the process is measured by metrics that are contained in the NAVFAC People Metrics. The process is focused at command level issues; however, individuals follow a similar process that follows the same steps that focus on their career plan and Individual Development Plan (IDP). The same basic steps are taken; however, instead of creating the plan, each person would use the plan as the guide for the requirements of their job. They will complete a self-analysis and then work with their supervisor to develop an IDP and associated career progression through mentoring. The graphic, right below, shows the individual community management process.

How does NAVFAC's effort align with DoD and DoN Community Management Efforts? DoD and Navy have ongoing efforts to manage its workforce using competency-based programs similar to NAVFAC's. The NAVFAC CM program is a subset of the DoD and DoN programs and link almost directly to the communities defined at DoD and DoN. For more information, visit the community management website at http://cmcell.navfac.navy.mil or talk to your command's representative. Copies of the webcasts and completed community management plans are available for viewing.

Origin of the Seabee Name and Insignia

By Commander Herbert M. Shilstone, Jr. CEC, USNR (Ret.)

Commander Herbert Shilstone passed away in 2001. Shilstone played a large role in the development of the Seabee name and insignia. The article that follows is reprinted from the March 1956 CEC Bulletin in memory of Commander Shilstone.

In early January 1942 the first organized school for training "Con struction Regiment" personnel was put into operation at the Naval Air Station, Quonset Point, R. I. Civilian employees under Contract NOy 4175, of which Captain Raymond V. Miller was Officer in Charge, were utilized as instructors; the author (then a lieutenant), assisted by Lieutenant Junior Grade Thomas J. Doyle, was in charge of training, and Lieutenant Junior Grade Charlie Broadbent was in charge of personnel matters. The foregoing officers constituted the total commissioned staff of this original activity.

No sooner were some 13,000 personnel for Construction Regiments authorized by Congress than 250 "boots" were pulled out of preliminary training at Newport, R.I., and sent to Quonset Point for outfitting prior to embarkation for duty at Bora Bora in the South Pacific. These men were literally dropped in our laps and we had to cope with the situation as best we could.

Because of the urgency of their need overseas for the installation of ship fueling facilities, this first group passed through with practically no training at all. Unfortunately, the men were absolutely green boots from a military standpoint who lacked uniforms, shots, dog tags, and every other form of indoctrination. In fact, some of the chief petty officers, who then were required to purchase their own uniforms ultimately sailed in civilian clothes because of the unavailability of their own uniforms.

The boots from Newport completely exhausted the clothing and small stores at Quonset in a few hours and it was necessary for us to slip over to Providence and clean out several Army and Navy stores there in order to outfit this group. It was because of this emergency situation that some of the first detachments of construction men arrived in the forward area with all kinds of striped overalls, mechanics caps, hunting jackets, etc.

These men were "shown" the advance base equipment, much of which was assembled at Quonset Point prior to the establishment of the Advanced Base Depot at Davisville, and that was about the extent of their military construction training. This group was organized at Quonset Point on 20 January 1942 later to become renowned as the "Bobcats" because that was the code name for Bora Bora, their destination.

This first unit was shipped to Norfolk and then Charleston. S. C., where it departed for the Pacific on 27 January under the command of Commander Harold M. Sylvester.

Immediately after the Bobcats

left, several hundred additional men were sent to us from the Training Station at Newport for duty with the "Construction Regiments", soon to be referred to as Construction Battalions. Under the sponsorship of Captain Miller and with the knowledge and approval of Commander J. R. Perry, Director of Administration and Personnel at BuDocks, we took over an old frame building at Quonset Point which had been used as a civilian cafeteria during the construction phase and converted this into a training school.

Using construction funds we utilized a number of construction contractor's employees as civilian instructors to teach the men how to operate and repair the advanced base types of portable stills, generators, radio masts, pontoons, propulsion units, and similar devices. We set up a welding school, held classes in electricity, taught tank erection, dynamiting and several other technical subjects: and we still found time to give military training by use of several Marine instructors.

As one class of men was pushed out by a fresh group, the displaced men went to National Youth Camps where they received additional military training and marked time until Camp Allen was ready, in Norfolk on 13 March 1942.

In the meantime, Lieutenant Commander W. B. Howard, from the Administration and Personnel Department, BuDocks, visited the school and remarked that the construction battalions should have some distinctive insignia, and short name to enhance the esprit de corps of this new type military force.

In line with this suggestion we concentrated on the matter and solicited suggestions from the men in training, the civilian employees, and interested officers. Many ideas were received but none seemed entirely appropriate.

It was thought that some animal or insect in the Walt Disney style could best portray the desired idea. At first the beaver was selected because of this animal's constructive abilities, but, since a beaver is not an aggressive fighter, a bee was adopted as more suitable. The artistic abilities of Mr. Frank Iafrate, a young plan-file clerk in the Contractor's organization, were called upon to help in the development of the insignia.

Under the direction of Lieutenant Junior Grade Doyle and the author (we had to consult the dictionary to verify how many arms and/or legs the bee had), Mr. Iafrate worked up the basic insignia which is now in use. It portrayed a flying bee fighting mad-with a sailor hat on his head, a spitting Tommy gun in his fore hand, a wrench in his second hand and a carpenter's hammer in his rear hand. In respective order his sleeves bore the rating badges of the Gunner's Mate, Machinist's Mate, and Carpenter's Mate. The insignia was bordered by a "Q" for Quonset Point.

Credit for coining the actual name "Seabees" must go Ensign R. D. Woodward, a Supply Corps officer assigned at Quonset. He came up with this natural pseudonym at an informal Sunday afternoon meeting in the Quonset BOQ attended by several area CEC officers. Ironically Ensign Woodward was present at the meeting only as a BOQ roommate of the others. Lieutnenant J. P. Roulett, Assistant Officer in Charge of Construction, was greatly interested in the development of the name and insignia and suggested several names; others spoke of "Busy Bees," but it was the Supply officer who bit upon the logical name.

"Seabee" of course, was phonetically similar to the pronunciation of CB, short for construction battalion. While this new military force previously had been known as Construction Regiments--a throwback to the 12th Regiment (Public Works) of World War I--the new nickname "Seabees" immediately popularized the Battalion concept.

This writer then prepared a letter on 9 February explaining the selection of the name "Seabees" to be accompanied by a drawing of the insignia, but did not send it to the Bureau. As mentioned previously we operated this improvised training school using construction funds. By early February Captain Miller made it known that he could no longer make available such resources. Consequently, if the school were to continue in operation I would have to go to Washington and get some money.

Accordingly, I traveled to the Bureau for this purpose and at the same time, handed the letter of 9 February together with the drawing of the Seabee insignia to Commander Perry with the request that we be allowed to use the name and insignia limitedly.

This letter is reproduced here in full.

OFFICER-IN-CHARGE OF CONSTRUCTION
CONTRACTS N0y 4175 & NOy 4631

U.S. Naval Air Station
Quonset Point, R.I.
9 February 1942

Dear Commander Perry:

When Lieutenant Commander Howard was here, the thought was expressed that it might be well for our Construction Regiments to have an official or an unofficial nickname such as is used for the "Commandos" and "Pioneers." Along with the idea, it seemed appropriate to have a descriptive insignia.

After consideration of many names and cartoons, the enclosed device is submitted with the thought that it may be approved for such use as the Bureau sees fit. Unless it may be used even more extensively, it is hoped that permission may be granted for the display of the insignia and the unofficial use of the name "SEABEES" solely within training schools.

The word "SEABEES" was selected to express the constructive industriousness of the bee coupled with the naval connotation of the word "Sea." The phonetic pronunciation of the name forms the letters "C-B" which are the initials of

continued on next page

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Construction Battalion.
Captain Miller has expressed his approval of both the idea and the proposed isignia.
A local artist employed as a clerk on the Station, Mr. Frank Iafrate, is largely responsible for the development of the drawing.

Respectfully,
Herbert M. Shilstone, Jr.

Commander J.R. Perry, CEC, USN
Bureau of Yards and Docks
Washington, D.C.

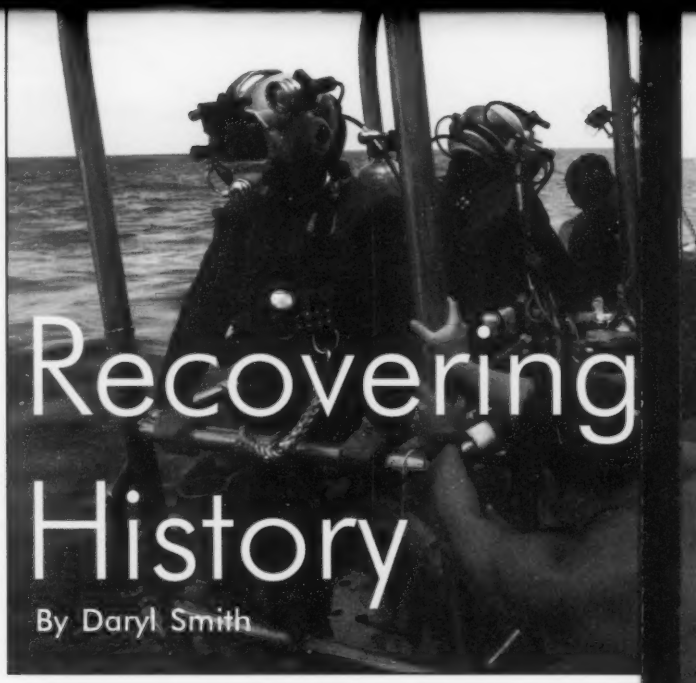
Upon my departure from the Bureau later that same day, Commander Perry stated that both Rear Admiral Ben Moreell, Chief of BuDocks, and Captain Lewis B. Combs, Assistant (Deputy) Chief, liked the idea and probable favorable consideration would result in due course. Regarding the insignia, it was at this level that the "Q" for a border was removed and a circular hawser substituted; also at this stage the block lettering of SEABEES was exchanged for stencil letters, and CEC insignias were placed on the bee's sleeves to indicate the relationship of that Corps and BuDocks to this newest Navy force,

The designation of Construction Battalion as "Seabees" was approved, and the insignia for use on major items of equipment belonging to the Battalions was authorized by the Chief of the Bureau of Navigation (BuPers) on 5 March 1942.

Naturally, all of us who played a part in the matter were delighted to observe the early wide usage of both the name and insignia as identifying the several hundred thousand officers and men who ultimately served so effectively in our naval construction units.

As this résumé should indicate, the successful work was the result of the combined efforts of several interested men who knew approximately what they wanted but, to some extent, lucked into the achievement of a most acceptable end result.

It is particularly interesting to note that the name "Seabees" was coined by a Reserve Supply officer and the cartoon was drawn by a young civilian with artistic abilities who happened to be available. Very appropriately, Frank Iafrate later enlisted in the same Seabees at Davisville, and, while stationed there, entered the contest for an appropriate insignia for NAS Quonset Point. This contest was won by Mr. Iafrate, and his design is still the insignia for that Station—the well-known "Quonset Indian." Maybe there was not so much "luck" in the Seabee matter after all.



Recovering History

By Daryl Smith

While working 240 feet underwater, Seabee diver CE1 (SCW/DV) Todd Horne was too busy to think much about the fact that he was standing on the ship that every student reads about in history class, a ship that changed the course of naval history forever and then vanished beneath the sea for more than 100 years. However, it was an experience neither he nor his fellow Seabee divers will ever forget.

Seabee divers from Underwater Construction Team One (UCT One) recently participated in the recovery of the 30-ton engine of the USS MONITOR off the coast of North Carolina. Working for a total of 45 days, two groups of six UCT One Seabees were among the 70 Navy divers working around the clock on the Civil War ironclad from a 300-foot barge.

Located 16 miles offshore, the MONITOR has rested upside-down on the ocean floor since sinking during a fierce gale while being towed to North Carolina on New Year's Eve 1862. The wreckage was discovered in 1973. Due to the rapidly deteriorating condition of the ship, the recovery effort has been a race against time to retrieve important components of the vessel. The ship's propeller and part of the shaft were raised last year.

More accustomed to building and repairing underwater structures as opposed to dismantling and retrieving historical artifacts at extreme depths, the Seabees faced many new challenges during the operation. One of the main challenges was using a mixture of oxygen and helium for breathing, which is required for deep water diving. Seabee divers normally work in depths of 190 feet or less using normal air. "This was an excellent training op-

portunity for our guys and a real stepping stone for their professional development," said UCT One's Commanding Officer, Lieutenant Commander Greg Zielinski.

The divers are lowered to the site in a metal stage, two at a time. The stage is used so that the divers have something secure to hold on to while passing through the strong currents of the Gulf Stream on the way down. At about 20 feet down, their surface-supplied air is switched to a mixture of 85 percent helium and 15 percent oxygen. After reaching the bottom, the divers work on the wreck for about 25 minutes. Visibility is normally pretty good, about 80 to 100 feet during the daytime, although conditions can change rapidly. Video cameras fitted to their diving helmets relay constant images of progress to the television monitors on the barge.

They then mount the stage again and are hoisted back to the barge, stopping at various intervals on the way up for decompression and switch to a 50/50 mix of oxygen and helium at about 90 feet. Once the divers reach about 40 feet, things start to happen very fast, because the divers only have five minutes from this point to get into the decompression chamber. Once they reach the barge, they only have about a minute and a half left to get undressed and into the chamber, where they remain for two hours while breathing pure oxygen.

However, the work itself was not much different from what Seabees normally do, and the Seabees have a great deal of expertise using hydraulic tools required during the project. "It involves a lot of the techniques and tools the Seabees use every day, but we don't do it at this depth," said EACS (SCW/DV) Jeff Moxley. He explained, however, that divers must be a bit more careful not to disturb or damage historical artifacts. "You have to be more like an archeologist and use small tools and go at a slower pace."

Lieutenant Commander Zielinski added, "This kind of work is really construction in reverse."

The Seabees also had the opportunity do observe a completely different diving technique, known as saturation diving, where divers are lowerd in a diving bell and remain submerged for eight hours. When they return to the barge, they live inside a pressurized chamber for a week or more.

Having 70 divers from various commands living and working together on the barge proved to be a valuable experience. Headed by the National Oceanic and Atmospheric Administration, the project involved personnel from Mobile Diving and Salvage Group Two, Naval Sea Systems Command, Naval Experimental Diving Unit, Naval Reserve Mobile Diving and Salvage Unit Two, Mobile Diving and Salvage Unit One, Submarine Development Group Five, Naval Diving and Salvage Training Command, Naval Recruiting District New England, Trident Repair Facility Kings Bay, Atlantic Fleet Combat Camera and EOD Mobile Unit 10 as well as contractor personnel.

Because the MONITOR is upside-down on the ocean floor, divers had to cut through the bottom of the hull in order to rig a large sling around the engine so the barge's crane could hoist it out.

CE1 Horne made two dives. One was to help attach the straps that would eventually lift the engine out, and a second dive was to shore up an area of the hull with cement bags to keep it from collapsing. He explained that, although very aware of the site's historical significance, there is not much time to think about it while working. "You have a camera and light on your helmet, and they direct you (from the barge) to where you need to go and what you need to do," he said. "Before you know it, the dive is over."

The site contained a variety of hazards. The wreckage is a maze of sharp, twisted metal, and divers had to be constantly aware of where their umbilical line was to make sure it did not get snagged. Because the engine was upside-down in the remains of the hull, there was the concern that it could fall, possibly trapping a diver or severing his umbilical. Like most wreckage sites, the MONITOR also attracts a variety of sea life, including sharks and moray eels.

Amid the cheers of the divers and other project participants, the engine was finally raised on July 16 and was taken to the Mainers' Museum in Newport News, Va., where it will undergo about 10 years of preservation treatment.

Seabee divers may get a second chance to participate in the MONITOR project, as plans are underway to raise the ship's turret and its two cannons in 2002.

Above left: Navy divers prepare to lower two members over the side of the barge to the Monitor wreckage 240 feet below. (Photo by Daryl Smith)
Left: A MDSU One diver works on the wreckage site 240 feet below the surface. (Photo by PHC (DV/SW) Andrew McKaskle, Combat Camera Atlantic)

Members Complete Basic Training at CECOS

Members of basic class numbers 218, 219, and 220 graduated from the Naval School, Civil Engineer Corps, Port Hueneme, Calif. Course work is comprised of eight weeks of specialized training pertinent to the Navy's needs for shore installation engineering, public works management, construction contracting and administration, and Seabee operations.

Basic Class 218

ENS Michael C. Abernathy
LTJG Jerome S. Alina
ENS Oscar D. Antillon
ENS Perry R. Barker
ENS Joel A. Baynard
LTJG Jeffrey L. Benjamin
ENS Christopher A. Bergeron
ENS Richard Boucher
ENS Jason M. Brown
LT Donald R. Brus
ENS Eric R. Carandang
ENS Sonthaya Chansipaeng
ENS Aaron J. Chetelat
LT Michael L. Coe
LT Robert M. Cohen
ENS Nathan L. Conner
ENS Patrick M. Cooke
CWO2 Bruce H. Coskie
ENS Kevin M. Coyne
ENS Jose R. Deliz
ENS Taman H. Duong
ENS Jeffrey T. Dupart
ENS John E. Eaglin
LTJG Anthony R. Fogler
ENS Jason R. Fong
ENS Wade D. Frazier
ENS Pedro B. Gonzalez
LTJG Eric C. Haun
LTJG Alexander Hutchison
ENS Michael D. Ingram
LT Kevin T. Jensen
ENS Patrick C. Jors
LT Patrick M. Kelly
ENS Ritchard D. Kelly
ENS Glen P. Koziuk
LT Christopher J. Krus
ENS Dustin Kwok
ENS Christopher J. Laystrom
LTJG Matthew W. Lenz
ENS Roger Martinez
LT John D. Millinor
ENS Jarrod A. Mohr
ENS Joseph M. O'Sullivan
LTJG Ryan W. Perry
ENS Jared A. Powell
LT Chris H. Rehkop
LT Jody A. Rice
LTJG Luis Rioseco
LT Despina Rogers
ENS Ken E. Schwalbe
ENS Craig A. Shellerud
LT James A. Sinclair
ENS Torben T. Smith
ENS Rommel E. Tanglao
ENS Erik P. Ulmen
ENS Robert A. Wadworth
ENS Landric P. Walden
ENS James P. Wallace
ENS Thomas Wojtkiw
ENS Michael C. Yee

Basic Class 219

ENS Her Bai
ENS Greggory A. Benton
ENS Frank W. Carroll
LTJG Daniel W. Cook
ENS Christopher J. Croke
ENS Kevin W. Crowder
LTJG John Doan
ENS Pamela M. Eclar
ENS Jason A. Edelberg
ENS James W. Evans
ENS Michael D. Goolsby
LTJG Eric W. Hahn
CWO2 Steven J. Hind Sr.
ENS Gregory P. Jennings
LTJG Teddi M. Johnson
LT Gregory J. Kelly

CWO2 Matthew S. Kiefer
LT Timothy G. Lamb
ENS Christopher H. Lankford
LTJG Russell G. Lawrence
ENS Alvin G. Li
ENS Angelico Q. Lumanlan
ENS Paul F. Magoulick
ENS Seth T. Mangasarian
LT Christopher A. Martino
LTJG Saul S. Montes
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ENS Brian C. Oosterman
ENS Stephen J. Opalenik
ENS Byron Page
ENS Stephen T. Padhi
ENS Adam S. Perrins
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ENS Christopher D. Rapp
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ENS Carla G. Richards
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ENS Raymond Rohena
ENS Michael S. Ross
ENS Russell T. Rote
ENS Jeffrey P. Rozema
LTJG Jose A. Rubio
LT Jennifer K. Ruegg
ENS Daniel R. Shadock
ENS John M. Smith
ENS Robert D. Stiles
LT Nathaniel R. Straub
ENS Juliana M. Strieter
ENS Preston D. Taylor
Lcdr Robert B. Traeder
CWO2 Kenneth M. Tyler
ENS Kenneth L. Vargas
ENS Christopher M. Velasco
ENS Evan S. Williams
LTJG John T. Wofford
LT Michael Wolfersberger
LTJG Joseph W. Yates

Basic Class 220

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ENS Russell P. Bates
ENS Philip J. Beck
ENS Matthew L. Bedard
ENS Stephen T. Benson
ENS Charles S. Bisgard
ENS Brett M. Bodine
ENS Jason D. Brecto
ENS Lakeeva M. Brooks
ENS Joel D. Bruner
LT Mario P. Calrizia
ENS Ryan P. Carey
ENS Marjorie D. Chiles
ENS Josemanny P. Delrosario
ENS Shawn G. Denihan
ENS Timothy C. Doyle
ENS Samuel L. Durbin
LTJG Aylin Duyal
ENS Thomas A. Ehler
LT Efren R. Flores
ENS Theodore J. Foster
LT Kendra L. Gastright
ENS Carrie E. Gephart
ENS Matthew C. Gunderson
CWO2 Raymond F. Haas
LTJG David P. Hagan
LTJG Joseph E. Huggins
ENS Andrew P. Hughes
CWO2 Francis A. Iusi
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ENS Jeffrey G. Jordan
ENS Ryszard B. Kaczmarek
ENS Scott M. Kelley
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ENS Patrick A. Kuhne
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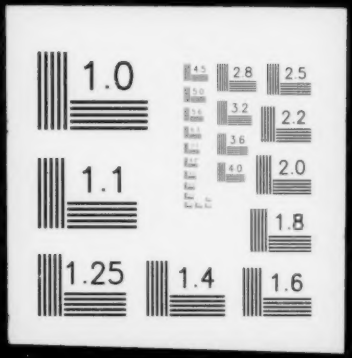
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